Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
Wireless E911 Location Accuracy Requirements	)	PS Docket No. 07-114
E911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196

COMMENTS OF
MOTOROLA MOBILITY, INC. AND MOTOROLA SOLUTIONS, INC.

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EXECUTIVE SUMMARY

Motorola Mobility and Motorola Solutions applaud the Commission on its recently released *Second Report and Order* on wireless E911 location accuracy requirements, in which the Commission accomplished a major upgrade to the E911 location accuracy rules. The new rules reflect the state of the art in location information technology and the future benchmark improvements codified will continue to drive innovation at an aggressive pace, to the ultimate benefit of consumers. While it is essential that Public Safety Answering Points ("PSAPs") receive accurate location information about callers, the industry should be given time to design and implement processes directed at satisfying the new obligations. Motorola Mobility and Motorola Solutions support efforts aimed at further improving the location capability of 911 and E911 services for existing and new voice communications technologies, but respectfully urge the Commission to refrain from adopting additional location information regulations at this time. Instead, the Commission should focus on supporting the ongoing research and development efforts in this area, fostering industry-led standards setting, and investigating continuing challenges to the provision of E911 location information.

In response to the questions posed in the *FNPRM*, Motorola Mobility and Motorola Solutions note that there is significant work yet to be done in addressing some of the remaining technical challenges to the provision of accurate automatic location information in all environments. Although regulatory changes like the requirement that carriers provide PSAPs with uncertainty information will have a beneficial impact on the efficiency of emergency responders, neither these changes nor recent developments in technology are sufficient to support further enhancements to the location accuracy rules or the adoption of a single location accuracy standard. Overcoming challenging environments, providing accurate vertical location

information, and achieving automatic location information for all users when roaming are technical challenges that will require additional study, development, and coordination. Some of these issues are being taken up by the CSRIC Working Group 4C, which will issue a report to the FCC soon. For those issues outside the scope of the CSRIC Working Group, Motorola Mobility and Motorola Solutions continue to support the formation of an Enhanced 911 Technical Advisory Group ("ETAG").

Motorola Mobility and Motorola Solutions also share the Commission's commitment to ensuring that technological innovation works for the benefit of 911. In response to the questions posed in the *NOI*, Motorola Mobility and Motorola Solutions suggest that when considering expanding E911 location information obligations to new technologies, the Commission should conduct a service- and application- specific analysis to better promote innovation while also serving the public interest in having robust emergency services.

With respect to the specific questions pertaining to the provision of automatic location information over mobile and nomadic VoIP services, Motorola Mobility and Motorola Solutions stress that there are a wide variety of devices and services falling into this category, operating over a number of different types of networks. At the current moment, sufficient technical standards do not exist to support applying a single location standard to these various devices. As the Commission considers technologies such as non-interconnected VoIP, NG911, and other IP-based services, Motorola Mobility and Motorola Solutions urge the Commission to recognize the substantial standards development and industry coordination that has to be completed before accurate location information can reliably be delivered to PSAPs over emerging technologies. Proposing new accuracy standards would be premature at this time.

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Motorola Mobility, Inc. and Motorola Solutions, Inc. ("Motorola Mobility and Motorola Solutions")[1] hereby submit the following comments in response to the Federal Communications Commission's ("Commission") Further Notice of Proposed Rulemaking ("*FNPRM*") and Notice of Inquiry ("*NOI*") on wireless E911 location accuracy requirements and E911 requirements for IP-enabled service providers (collectively, the "*Notice*").[2]

I. INTRODUCTION

Motorola Mobility and Motorola Solutions applaud the Commission on the accomplishments made in its recently released *Second Report and Order* on wireless E911

[1] Motorola Mobility, Inc. and Motorola Solutions, Inc. have previously participated in this proceeding under the corporate name Motorola Inc. ("Motorola"). On January 4, 2011, Motorola, Inc. completed the separation of its Mobile Devices and Home businesses through the distribution of all of the common stock of Motorola Mobility Holdings, Inc. to its stockholders. Motorola, Inc. then changed its name to Motorola Solutions, Inc. and will continue to operate Motorola's Enterprise Mobility Solutions and Networks. The two separate companies share similar positions in this proceeding, hence the joint filing.

[2] *See* Wireless E911 Location Accuracy Requirements, E911 Requirements for IP-Enabled Service Providers, PS Docket No. 07-114, WC Docket NO. 05-196, *Further Notice of Proposed Rulemaking and Notice of Inquiry*, FCC 10-177 (rel. Sept. 23, 2010) ("*Notice*").

location accuracy requirements.[3] The revised rules adopted therein represent an effective balancing of the various proposals and comments on the record in a way that moves the issue of enhanced location accuracy forward, to the benefit of consumers. Motorola Mobility and Motorola Solutions appreciate that improving E911 location information accuracy is an ongoing project and that as technology evolves, the Commission and industry must challenge themselves to better serve the public interest. While the overarching policy goal is to provide Public Safety Answering Points ("PSAPs") accurate location information from callers, the *Second Report and Order* represents a major upgrade to the E911 rules, and the industry needs time to incorporate these changes before taking on any new requirements. As such, Motorola Mobility and Motorola Solutions respectfully urge the Commission to refrain from adopting any additional location information regulations at this time. Instead, the Commission should focus on investigating continuing challenges to the provision of E911 location information, supporting the ongoing research and development efforts in this area, and fostering industry-led standards setting.

Many of the issues raised in the *Notice* are also being explored within the Communications Security, Reliability, and Interoperability Council ("CSRIC") Working Group 4C, which is investigating technical aspects of E911 location accuracy. Motorola Mobility and Motorola Solutions have participated actively in this group and the Working Group report will contain information that is highly relevant to the Commission's current inquiries. The Commission should review this report closely during its consideration of these issues. To the extent that the *Notice* raises issues outside the scope of the CSRIC mandate that nevertheless call for new technical solutions and standards, Motorola Mobility and Motorola Solutions reiterate

[3] *See* Wireless E911 Location Accuracy Requirements, E911 Requirements for IP-Enabled Service Providers, PS Docket No. 07-114, WC Docket NO. 05-196, *Second Report and Order*, FCC 10-176 (rel. Sept. 23, 2010) .

their support for the formation of an Enhanced 911 Technical Advisory Group ("ETAG"). To be most effective, new developments in E911 location accuracy should be coordinated across the wireless and VoIP industries. As articulated by APCO, NENA, and AT&T, the ETAG will be a forum for the communications industry to work with the 911 community to address technical issues and develop location accuracy solutions in a uniform and organized way.[4]

Unless otherwise indicated, these comments in response to the *Notice* regarding wireless technologies refer only to licensed use of spectrum. Because of the unique technological and structural characteristics of the various unlicensed wireless markets, providing location accuracy over unlicensed wireless networks presents significant challenges, finding solutions for which will require substantial additional inquiry, if feasible at all.

II. RESPONSES TO QUESTIONS ASKED IN THE FURTHER NOTICE OF PROPOSED RULEMAKING

In the *FNPRM*, the Commission seeks comment on a variety of proposals for further enhancements to its E911 location accuracy rules. Motorola Mobility and Motorola Solutions share the Commission's belief that improvements in automatic location information should be delivered to the public as soon as possible and that achievable goals drive innovation. However, significant work still remains to be done to overcome some of the remaining challenges to providing accurate location information. Some of these challenges are complicated by persisting incompatibilities between some carriers' location technologies and wireless broadband protocols. The industry has demonstrated a firm commitment to resolving challenges in providing accurate E911 location information in the past, and the Commission should focus on promoting the

[4] *See, e.g.*, Letter from Brian Fontes, CEO, NENA, Robert M. Gurss, Director, Legal & Government Affairs, APCO, and Robert W. Quinn, Jr., Senior Vice President, Federal Regulatory, AT&T, to the Hon. Kevin Martin, Chairman, Federal Communications Commission, PS Docket No. 07-114 at 3 (filed Aug. 25, 2008).

ongoing technological development and standard setting efforts rather than applying any further enhanced and potentially unattainable location accuracy requirements.

A. Existing and Prospective Location Technologies

The revised location accuracy standards adopted in the *Second Report and Order* pose a significant, but surmountable, challenge to many manufacturers and service providers, and represent the limits of what can be accomplished with current and near-term wireless technology. Under the revised rules, service providers relying upon network-based location information technologies must provide Phase II location information with an accuracy of 100 meters for 67 percent of calls and 300 meters for 90 percent of calls, measured on a per-PSAP or per-county basis, over an increasing amount of their total service area.[5] For service providers using handset-based location information technologies, location information must be provided with an accuracy of 50 meters for 67 percent of calls, and 150 meters for 80 percent of calls in two years.[6] The Commission also adopted rules requiring, for the first time, that carriers transmit confidence and uncertainty data on a per call basis upon PSAP request.[7]

In the *FNPRM*, the Commission seeks comment on the state of wireless location technologies and whether technological advances have made it possible to provide even more accurate location information.[8] Motorola Mobility and Motorola Solutions continue to work internally and in conjunction with their service provider partners to improve the accuracy of automatic location information by developing new technologies and implementing effective

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5 *See Second Report and Order*, App. C at 39-40 (newly adopted Section 20.18(h)(1) of the Commission's rules).

6 *Id.* at 40 (newly adopted 20.18(h)(2) of the Commission's rules).

7 *Second Report and Order* at 21-22, ¶¶ 54-55.

8 *Notice* at 7, ¶ 15.

solutions into all of our devices. However, some emerging technologies cannot reliably produce location information with greater accuracy than that required by the newly revised rules. Rather than considering any new or enhanced location information requirements, the Commission should instead promote continued research and inquiry in this area.

The Commission also seeks comment specifically on how the newly adopted confidence and uncertainty requirements should affect the need for further changes to location accuracy information.[9] As APCO and NENA have stated, transmission of confidence and uncertainty information "will greatly improve the ability of PSAPs to utilize accuracy data and manage their 9-1-1 calls."[10] We recognize that confidence and uncertainty data helps PSAPs prioritize the use of their resources and determine the appropriate response to an incident. However, it is important to recognize that confidence and uncertainty information are only additional data points for PSAPs to use in making logistical decisions, and will not actually improve the accuracy of the automatic location information produced. Although the widespread use of confidence and uncertainty data may improve the efficiency and effectiveness of emergency responders, the technology itself will not support an increase in location accuracy requirements.

B. Potential Modifications to Accuracy Standards

The Commission seeks comment on whether it should modify the current location accuracy standards for handset-based or network-based location technologies, or adopt a single location accuracy standard for CMRS networks. The Commission has previously sought

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9 *Id.* at 7 ¶ 16.

10 *See* Letter from Robert M. Gurss, Director, Legal and Government Affairs, APCO International and Brian Fontes, Chief Executive Officer, NENA to Marlene Dortch, Secretary, Federal Communications Commission, PS Docket No. 07-114, CC Docket No. 94-102 (filed Sept. 9, 2008).

comment on the utility and viability of a single location accuracy standard.[11] Now, as then, Motorola Mobility and Motorola Solutions agree with the Commission that the development of a single location accuracy standard is a laudable goal that could provide additional clarity and simplicity to first responders. However, the variety of different location technologies in use in the industry means that the development and implementation of a single location accuracy standard cannot be accomplished in the near term.

Although location accuracy has generally improved across the board, there are still significant differences between—and, indeed, among—handset-based and network-based location technologies. Each technology has strengths and weaknesses, just as each service provider will face unique challenges in providing location information due to differences in geography, terrain, and population across its service area. Any movement towards a single standard must consider and reflect the current state and trajectory of wireless location technology in a variety of locations. Ultimately, Motorola Mobility and Motorola Solutions believe that the Commission's existing bifurcated standards exploits the respective capabilities of the two main wireless location technologies in a way that maximizes the public benefit.

The Commission also seeks comment on the potential for service providers to deploy a combination of handset-based and network-based location technologies (a "hybrid solution") to improve overall location accuracy.[12] Although a hybrid solution might improve performance where a single technology might otherwise fail—thereby potentially maximizing some of the strengths and minimizing some of the weakness of each technology—such a solution would not

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[11] *See* Wireless E911 Location Accuracy Requirements, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, 911 Requirements for IP-Enabled Service Providers, *Notice of Proposed Rulemaking*, 22 FCC Rcd 10609, 10613 ¶¶ 9-10 (2007).

[12] *Notice* at 8, ¶ 18.

address the instances and environments where neither technology will provide accurate information. Moreover, it is not clear that hybrid solutions would generally provide more accurate results than would be obtained with whichever technology is better-suited to the particular environment. Thus, while a hybrid solution could increase the percentage yield of success of location determinations, which is an important component to improving the efficiency of E911 response, it would not likely improve overall location accuracy.

If the Commission decides to set a single standard based upon the potential for deploying a hybrid solution, it should do so in reference to the two existing technologies, as opposed to pursuing an altogether new standard. Because a hybrid solution is not likely to immediately be more accurate than either existing location technology on which it is based, the Commission should adopt the current network-based location accuracy standard as the benchmark for hybrid solutions. Adopting the more demanding handset-based requirement could create a disincentive to experiment with hybrid solutions, as such solutions might often have to rely upon the less accurate network-based location functionality to yield a successful location determination.

C. Challenging Environments

The Commission seeks to refresh the record on methods for improving location accuracy in challenging environments, such as indoor settings, urban canyons, and environments with heavy forestation.[13] As the Commission is well aware, these sorts of environments can create significant challenges for either type of location technology. Issues related to the technical aspects of providing E911 location information have been investigated and thoroughly discussed in the CSRIC Working Group 4C on "Technical Options for E9-1-1 Location Accuracy." Among the tasks of this working group are to identify emerging location technologies and

[13] *Notice* at 10, ¶ 22.

combinations of technologies used to improve location accuracy, and various other technical aspects of E911 location determination.[14] Because the CSRIC has already done a considerable amount of work dealing with providing location information in challenging environments, the Commission should refer to the upcoming report of CSRIC Working Group 4C for further information on this point before making any additional policy recommendations.

D. Vertical Location Information

The Notice correctly recognizes that providing accurate vertical location information of sufficient granularity could significantly benefit first responders, particularly in identifying the floor of a building on which assistance is needed.[15] However, the provision of vertical location information accurate enough to be useful to first responders is no easy task, and the technology to do so reliably has yet to be developed. Because of the lack of industry standardization of an acceptable technological solution for vertical location information, the Commission should refrain from adopting vertical location requirements at this time, and should instead focus on promoting further research and investigation.

Current GPS systems do have the capability to provide elevation data, however there are significant technical challenges involved. For example, to provide this data, the GPS unit must have clear line of sight to at least four satellites to produce reliable X, Y, Z, and time data.[16] Such clear lines of sight to multiple satellites are particularly difficult to obtain inside buildings, where accurate elevation information could be of most use in locating 911 callers. As a result of

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[14] *See* CSRIC, *CSRIC Working Group Descriptions – Working Group 4C*, http://www.fcc.gov/pshs/advisory/csric/wg-4c.pdf (last visited Dec. 20, 2010).

[15] *Notice* at 10, ¶ 23.

[16] X, Y, and Z refer to the three dimensions of physical space, with X and Y representing horizontal location and Z representing vertical location. Time refers to the time offset in the GPS receiver. GPS systems use estimates of these values based on measurements of the arrival times of coded signals from at least four satellites to determine a user's location at a given time.

its technical limitations, GPS elevation information is often accurate only up to about 50 meters, equating to a potential range of over a dozen floors in a multi-story building, rendering this information much less useful for first responders.

Motorola Mobility and Motorola Solutions also perceive significant challenges in the use of altimeters for determining elevation inside buildings. Altimeters rely upon the air pressure to determine elevation and indoor air pressure is affected by a variety of factors including the size of the building, internal and external temperature, and details of the building's construction, and it typically varies by some degree from outdoor air pressure. These variables will make it difficult to determine accurate height information. While the addition of barometers in smart phones and tablets may improve the ability of altimeters in indoor environments, more study and testing of these devices is needed.

Regardless, significant work will be required to facilitate the quick and accurate translation of Z-axis information into useful floor identification for first responders. Geographic information system ("GIS") databases are still maturing and are not sufficiently robust to accommodate this new functionality. In addition to accurate elevation information about callers, first responders would need to know the surrounding terrain elevation, floor height, and other structural and geographic information unique to the specific location before a reliable floor determination could be made. Similar logistical challenges will need to be addressed for any technological means of providing raw elevation data, whether handset- or network-based.

E. Location Accuracy While Roaming

Finally in the *FNPRM* portion of the *Notice*, the Commission seeks comment on whether it should mandate delivery of location information to PSAPs for roaming calls made by subscribers to a network that uses a different location technology or with which the carrier

handling the call has no automatic roaming relationship.[17] There are benefits to accomplishing seamless E911 roaming. Unfortunately, as previously explained,[18] given the wide variety of location solutions that have been deployed, this cannot be achieved in the near term for all carriers. Even among carriers that employ nominally the same types of location information technologies (*i.e.,* handset-based or network-based) there has been variation between deployments. Even for two wireless networks using a GPS-based location system, for example, the GPS messaging protocols between the handset and the location server could vary.

Although sometimes resolvable between the carriers, delivery of location information while roaming can also be complicated by the use of different broadband data formats between carriers even where their voice protocols are compatible. If there is convergence on wireless broadband and location identification technologies, then some of the basic challenges of E911 roaming would be more manageable, and location information might be able to be provided for roaming callers under many circumstances. Currently, however, the proliferation of incompatible broadband interfaces and location technologies renders the provision of accurate location information for roaming callers as generally infeasible.

III. RESPONSES TO QUESTIONS ASKED IN THE NOTICE OF INQUIRY

In the *Notice of Inquiry,* the Commission seeks comment on a number of issues related to the intersection between E911 and emerging technologies. Motorola Mobility and Motorola Solutions believe that as technology improves and new methods of communication proliferate, these advances should be able to work for the benefit of 911, not against it. However, these new

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17 *Notice* at 11 ¶ 24.

18 *See* Comments of Motorola, Inc., PS Docket No. 07-114, CC Docket No. 94-102, WC Docket No. 05-196 at 13 (filed Aug. 20, 2007).

types of communication, particularly IP-based communications, present dramatically different location challenges than previous forms, and technical standards are still in development.

A. 911 and E911 Requirements for VoIP Services

Motorola Mobility and Motorola Solutions recognize the Commission's interest in exploring the feasibility of providing location information to PSAPs without participation by mobile and nomadic VoIP customers. Implementation of this functionality, however, would require substantial standards development, investment, and infrastructure upgrades by both VoIP service providers and PSAPs. Until such standards are developed, the Commission should not require automatic location detection for interconnected VoIP on mobile devices. With respect to services that do not meet every aspect of the Commission's definition of interconnected VoIP, the Commission should not adopt a blanket rule regarding the provision of automatic location information.

Automatic Location Information. "Interconnected VoIP" describes a broad family of services not necessarily bound by a single technology, type of device, or usage model. For each of these different types of devices, different solutions would be available to the VoIP service provider and a different accuracy standard might be justified.

Motorola Mobility and Motorola Solutions have previously supported APCO's proposal that "where an interconnected VoIP service connects to a PSAP through an IP/wireline technology, it should provide validated master Street Address Guide ("MSAG") information."[19] However, interconnected VoIP services that connect over wireless networks should not be held to the same location accuracy standard as CMRS networks at this time. While providing

[19] *See* Reply Comments of Motorola, Inc., PS Docket No. 07-114, CC Docket No. 94-102, WC Docket No. 05-196 at 6-7 (filed Sept. 18, 2007) (quoting Comments of APCO, PS Docket No. 07-114, CC Docket No. 94-102, WC Docket No. 05-196 at 5-6 (filed Aug. 20, 2007).

automatic location information for wireless VoIP services can be accomplished, VoIP services will be connected over a variety of wireless networks and it cannot be assumed that the CMRS location accuracy standards would always be appropriate. For example, there may be instances where devices connect wirelessly via WiFi or WiMAX in which they do not have the benefit of network assisted GPS and thus application of the CMRS standard might be impractical.

Device manufacturers, who have no input or control over how user-installed third-party applications are developed, should not be responsible for ensuring that accurate location information is provided. Moreover, the commercial wireless carrier may not be aware that a third-party VoIP application is in use, as the traffic may look to the network operator like any other data activity. If the Commission requires that this information be automatically provided for wireless VoIP applications, it must be incumbent upon the VoIP application developer to work with the wireless service provider to deliver this functionality.

Additional VoIP Services. Because of the wide variety of services that can be categorized as VoIP, it would be imprudent for the Commission to place any uniform requirements for the provision of automatic location information on non-interconnected VoIP services. With the fast pace of innovation in broadband applications and services, and the increasingly widespread integration of broadband functionality into a variety of communications devices, the Commission should refrain from imposing any restrictions on a broad subset of services that may encompass unintended devices and services. The Commission should guard against unintentionally imposing additional regulatory burdens on public safety wireless broadband devices solely because they provide access to the public Internet or are capable of placing calls over the PSTN.[20] Public safety communications technologies continue to evolve and public safety mobile

[20] *See* Motorola Accessibility Act Comments at 4-6; Motorola HAC FNPRM Comments at 5-7.

broadband systems are being deployed with a wide range of functionality. However, these technologies are still nascent and the markets for these services and networks are still developing. Adding additional location information requirements at this late date of development could necessitate substantial and costly reengineering of public safety networks, ultimately raising the costs of and delaying the timelines for deployment of these crucial communications technologies. This result is particularly unwarranted in light of the fact that public safety devices—which by definition are directly connected to public safety communications networks, and which also are likely to already include some form of location identification technology—are unlikely to be used to dial 911.

B. Impact of NG911 Deployments on Location Accuracy and ALI

Motorola Mobility and Motorola Solutions are strongly committed to ensuring that the public safety and first responder community enjoys the full benefits of innovations in communications technology. As such, we support active participation with NENA and other organizations in developing the technologies, protocols, and policies that will facilitate the transition to a Next Generation 911 system.[21] When discussing these issues, however, it is important to keep in mind that NG911, unlike E911, is not fundamentally about improving location accuracy. Rather NG911 is an effort to ensure that public safety responders are able to keep up with and take advantage of emerging technologies and protocols, both within the public and within the PSAP itself.

[21] The Commission has recently released a Notice of Inquiry seeking comment on NG911 implementation. *See* Framework for Next Generation 911 Deployment, PS Docket No. 10-255, *Notice of Inquiry*, FCC 10-200, 76 FCC Rcd 2297 (2010). We will therefore limit the scope of our comments here on NG911 but look forward to participating in the newly established proceeding.

The benefits of providing accurate location information to PSAPs over the widest range of technologies possible are uniformly recognized. Consumer usage patterns are ever evolving and it is critical for location technologies and the public safety community to keep pace. However, there are significant technical challenges in providing automatic location information for some types of communications—particularly where the underlying technical architecture presents fundamental challenges to the provision of accurate automatic location information. In addition to ongoing technical development and field trials, achieving this capability will require coordination across the wireless industry and within the public safety community. Ultimately, although the facilitation of 911 communications over emerging technologies may demand a reexamination of specific location accuracy standards, it should not upset the generally established roles and responsibilities of the parties.

C. Applicability of 911 and E911 Requirements to Additional Wireless Communications Services, Devices and Applications

As the Commission correctly recognizes in the *Notice*, the variety of wireless communications applications and network devices is currently seeing unprecedented growth. However, it is crucial that the Commission does not inadvertently stifle the development of these new services and devices by imposing location information requirements on them prematurely.

IP-Based Voice Communications Services, Devices, and Applications. Implementing new automatic location information requirements for 911 calls placed by wireless broadband-enabled VoIP services is unlikely to be as simple as merely adopting new rules. Each of these services operates differently, employs a unique user interface, and has different functionalities. There would be significant challenges in applying CMRS-style location accuracy requirements to some of these services. These challenges may chill the development of valuable new services

as software developers avoid including voice functionality in new applications for fear of failing to comply with the E911 location accuracy rules.

There are currently limited or no industry recognized standards in place for the provision of broadband-enabled voice services. These circumstances could create significant confusion for the industry, PSAPs, and public as voice service providers develop varying and incompatible solutions. To ensure that the protocols develop in an orderly way that will enable future growth, if the Commission moves forward with new rules for broadband-enabled voice services, it is critically important that it provide sufficient time and opportunity for new standards to be developed by industry-based standards setting bodies.

Emerging Network Devices. The Commission is correct to recognize that simultaneously with the development of new wireless broadband services, network operators are deploying a variety of new network devices to increase capacity and improve service availability. While these new technologies might eventually lead to improvements in location determination, at this point these benefits are still speculative, and in any event the will be unlikely to justify changes in the existing location accuracy architecture.

IV. CONCLUSION

Motorola Mobility and Motorola Solutions again applaud the important steps toward improving E911 location accuracy taken by the Commission in the *Second Report and Order*. Motorola Mobility and Motorola Solutions appreciate the Commission's foresight on these matters and shares the Commission's vision of continuing to leverage advances in location technology and other developments in the broadband communications market to provide even more accurate and robust E911 location information for 911 calls from any platform. Providing accurate location information over emerging technologies will benefit consumers and enhance public safety but the Commission must remain cognizant of the significant technical challenges

to be faced and industry standards to be developed. Moving too hastily on these issues could result in resources wasted by service providers, public safety, and consumers on subpar solutions. In addition to be inefficient, such errors could ultimately negatively impact public safety. As such, Motorola Mobility and Motorola Solutions respectfully suggest that the Commission refrain from further rulemaking at this time, and instead continue to monitor technological development and industry implementation of the newly adopted accuracy standards.

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